CLAIMS

1. (Cancelled)

2. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp; and

a differencing circuit coupled to the first and second log amps, wherein the differencing circuit is arranged to continuously process outputs from the first and second log amps;

wherein the first and second log amps are progressive compression log amps.

3. (Previously presented) A measurement system according to claim 2 wherein:

the first log amp has a first logarithmic output coupled to a first input to the differencing circuit; and

the second log amp has a second logarithmic output coupled to a second input to the differencing circuit.

4. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp; and

a differencing circuit coupled to the first and second log amps, wherein the differencing circuit consists essentially of a summing node.

5. (Previously presented) A measurement system according to claim 2 wherein the differencing circuit comprises an output interface circuit.

6. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a differencing circuit coupled to the first and second log amps; and

a phase detector core coupled to the first and second log amps.

7. (Original) A measurement system according to claim 6 wherein:

the first log amp has a first limiting output coupled to a first input of the phase detector core; and

the second log amp has a second limiting output coupled to a second input of the phase detector core.

8. (Original) A measurement system according to claim 7 wherein the detector core comprises a multiplier.

9. (Original) A measurement system according to claim 6 further comprising an output interface circuit coupled to the phase detector core.

10. (Previously presented) A measurement system comprising:

a first log amp; and

a second log amp;

wherein the first and second log amps are progressive compression log amps co-integrated on a substrate.

11. (Previously presented) A measurement system comprising:

a first log amp; and

a second log amp;

wherein the first and second log amps are co-integrated on a substrate; and

wherein the first and second log amps are arranged symmetrically about a center line.

12. (Original) A measurement system circuit according to claim 10 wherein the substrate is mounted in a package.

13. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a first parasitic network coupled to the first log amp; and

a second parasitic network coupled to the second log amp;

wherein the first and second log amps are co-integrated on a substrate;

wherein the substrate is mounted in a package; and

wherein the first and second parasitic networks have similar frequency responses.

14. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a differencing circuit having first and second inputs coupled to the first and second log amps, respectively; and

a third log amp coupled to a third input of the differencing circuit.

15. (Previously presented) A measurement system comprising:

a first log amp;

a second log amp;

a differencing circuit having first and second inputs coupled to the first and second log amps, respectively; and

one or more additional log amps coupled to one or more additional inputs of the differencing circuit.

16. (Original) A measurement system comprising:

a first log amp having a first limiting output;

a second log amp having a second limiting output; and

a phase detector core coupled to the first and second log amps to receive the first and second limiting outputs.

17. (Original) A measurement system according to claim 16 wherein the phase detector core comprises a multiplier.

18. (Original) A measurement system according to claim 16 wherein the first and second log amps are co-integrated on a substrate.

19. (Previously presented) An integrated circuit comprising two or more progressive compression log amps.

20. (Previously presented) An integrated circuit according to claim 19 further comprising a differencing circuit coupled to the two or more progressive compression log amps.

21. (Previously presented) An integrated circuit comprising:

two or more log amps

a differencing circuit coupled to the two or more log amps; and

a phase detector core coupled to the two or more log amps.

22. (Previously presented) A method comprising:

logarithmically amplifying a first input signal, thereby generating a first output signal;

logarithmically amplifying a second input signal, thereby generating a second output signal; and

differentially and continuously processing the first and second output signals;

wherein logarithmically amplifying comprises progressively compressing.

23. (Original) A method according to claim 22 wherein:

the first and second output signals are logarithmic output signals; and

differentially processing the first and second output signals comprises differencing the first and second output signals.

24. (Previously presented) A method comprising:

logarithmically amplifying a first input signal, thereby generating a first output signal;

logarithmically amplifying a second input signal, thereby generating a second output signal; and

differentially processing the first and second output signals

wherein:

the first and second output signals are limiting output signals; and

differentially processing the first and second output signals comprises multiplying the first and second output signals.

25. (Previously presented) A method comprising:

logarithmically amplifying a first input signal, thereby generating a first output signal;

logarithmically amplifying a second input signal, thereby generating a second output signal;

differentially processing the first and second output signals;

utilizing a signal to be examined as the first input signal; and

utilizing a reference signal as the second input signal.

26. (Original) A method according to claim 25 wherein the reference signal has the same waveform as the signal to be examined.

27. (Previously presented) A method comprising:

logarithmically amplifying a first input signal, thereby generating a first output signal;

logarithmically amplifying a second input signal, thereby generating a second output signal;

differentially processing the first and second output signals;

utilizing a modulated signal for the first input signal; and

utilizing a modulation signal for the second input signal.

28. (Previously presented) A measurement system according to claim 2 further comprising a power amplifier having an input coupled to an input of the first log amp and an output coupled to an input of the second log amp.

29. (Previously presented) A measurement system according to claim 4 wherein the log amps have current-mode outputs.

30. (New) A measurement system comprising:

a first log amp;

a second log amp; and

a differencing circuit coupled to the first and second log amps, wherein the differencing circuit is arranged to continuously process outputs from the first and second log amps;

wherein the first and second log amps comprise progressive compression log amps.

31. (New) A measurement system comprising:

a first log amp; and

a second log amp;

wherein the first and second log amps comprise progressive compression log amps co-integrated on a substrate.